

# MICHIGAN

## Science and Engineering Profile

	Michigan	U.S.	Rank		Michigan	U.S.	Rank
Doctoral scientists, 1993	11,796	430,332	14	Total R&D performance, 1993 (millions)	\$10,778	\$161,427	3
Doctoral engineers, 1993	2,684	81,293	10	Industry R&D, 1993 (millions)	\$9,924	\$117,622	2
S&E doctorates awarded, 1993	953	25,409	8	Academic R&D, 1993 (millions)	\$700	\$19,489	8
of which, in engineering	30%	22%		of which, in life sciences	51%	55%	
in life sciences	24%	24%		in engineering	16%	16%	
in social sciences	13%	15%		in physical sciences	10%	11%	
S&E postdoctorates, 1993				Higher education current-fund			
in doctorate-granting institutions	1,052	34,394	9	expenditures, 1993 (millions)	\$5,715	\$163,994	8
S&E graduate students, 1993				Number of SBIR awards, 1990-93	229	13,995	16
in doctorate-granting institutions	17,086	438,128	8	Patents issued to state residents, 1994	2,928	56,039	4
Population, 1994 (000s)	9,496	260,341	8	Gross state product, 1992 (billions)	\$204.4	\$5,994.1	9
Civilian labor force, 1994 (000s)	4,753	131,013	8	of which, agriculture	1%	2%	
Personal income per capita, 1994	\$22,333	\$21,809	17	manufacturing, mining, construction	31%	23%	
Federal spending				transportation, communication, utilities	7%	9%	
Total expenditures 1994 (millions)	\$38,975	\$1,284,896	9	wholesale and retail trade	16%	16%	
R&D obligations 1993 (millions)	\$878	\$65,394	17	finance, insurance, real estate	16%	18%	
				services	18%	20%	
				government	11%	12%	

Rankings and totals are based on data for the 50 States and D.C.

## Federal Obligations for Research and Development in Michigan by Agency and Performer: Fiscal Year 1993

[Thousands of dollars]

	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank
<b>Total, all agencies</b>	877,983	95,717	0	359,694	360,856	57,861	3,855	18
<b>Department of Agriculture</b>	21,209	5,932	0	147	14,925	205	0	21
<b>Department of Commerce</b>	14,341	5,678	0	7,996	667	0	0	10
<b>Department of Defense</b>	470,276	75,156	0	336,238	31,703	27,179	0	17
<b>Department of Energy</b>	15,989	0	0	996	14,948	45	0	28
<b>Dept. of Health &amp; Human Services</b>	243,611	0	0	7,434	223,418	10,756	2,003	9
<b>Department of the Interior</b>	9,627	8,892	0	40	695	0	0	22
<b>Department of Transportation</b>	6,020	1	0	781	3,386	0	1,852	23
<b>Environmental Protection Agency</b>	4,408	0	0	2,472	1,936	0	0	19
<b>Nat'l Aeronautics &amp; Space Admin.</b>	31,055	58	0	2,969	11,990	16,038	0	18
<b>National Science Foundation</b>	61,447	0	0	621	57,188	3,638	0	8
<b>State rank</b>	18	22	na	16	9	11	20	

Federal R&D obligations are as reported by funding agencies.

FFRDC = federally funded research and development center

SBIR = small business innovation research

na = not applicable

Prepared by the National Science Foundation/Division of Science Resources Studies. Data compiled from numerous sources.